

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the claims

1. (Currently amended) An orthopaedic spatial fixation system for holding bone parts comprising a plurality of fixation plates wherein each plate includes a body portion having n attachment structures positioned therein, whereby said attachment structures are substantially positioned along an arc of α° of a circle defined by a diameter d , and the chord length between adjacent attachment structures is substantially equal to l , and

$$d \sim l \left(\sqrt{\frac{1}{\tan^2\left(\frac{\alpha}{2n}\right)} + 1} \right)$$

and whereby the diameter d for each plate within the system is unique, and the value for $n(360/\alpha)$ for each consecutive plate diameter d in the system is a multiple of 3, but is a number greater than 3.

2. (Previously presented) The orthopaedic spatial fixation system of claim 1 further comprising bone pins for interfacing the bone parts and plates; and,

a plurality of struts that extend between the plates to hold the plates in a selected position relative to one another and relative to the bone parts;

wherein the struts are attached to the plates at the attachment structures; and,

wherein a plurality of the struts have adjustable length sections for varying the length of the strut to adjust the relative position of the plates.

3. (Previously presented) The orthopaedic spatial fixation system of claim 2 wherein the attachment structures on at least one of the plates are one hundred twenty degrees (120°) apart.

4. (Previously presented) The orthopaedic spatial fixation system of claim 1 wherein rotation of one plate one hundred twenty degrees (120°) relative to an adjacent plate results in the same alignment of adjacent attachment structures as before such rotation of the plates.

5. (Previously presented) The orthopaedic spatial fixation system of claim 1 wherein the plates are symmetrically configured so that if one plate is placed over an adjacent plate, the attachment structures in each plate can be aligned.

6. (Previously presented) The orthopaedic spatial fixation system of claim 5 wherein the plates are symmetrically configured so that one plate can be flipped over without affecting the alignment of adjacent attachment structures.

7. (Previously presented) The orthopaedic spatial fixation system of claim 2 wherein there are two plates and each plate includes 3 attachment structures.

8. (Previously presented) The orthopaedic spatial fixation system of claim 7 wherein

there are six struts each having a first end and a second end;

the first end of each strut is attached to one of the plates and the second end of each strut is attached to the other plate;

the ends of the struts are attached to the plates at the attachment structures; and, each hole accommodates two strut ends, one from each of two adjacent struts.

9. (Previously presented) The orthopaedic spatial fixation system of claim 1, wherein the attachment structures are holes.

10. (Previously presented) The orthopaedic spatial fixation system of claim 1, wherein the attachment structures are pegs that are adapted to facilitate attachment of an accessories adapted to receive the pegs.

11. (Previously presented) The orthopaedic spatial fixation system of claim 1, wherein the circle comprises a groove and the attachment structures are clamps attached to the groove.

12. (Previously presented) The orthopaedic spatial fixation system of claim 1, further comprising markings or etches to designate the attachment structure positions.

13. (Previously presented) The orthopaedic spatial fixation system of claim 1, further comprising one or more plates being multiple diameter plates having a second set of attachment structures.

14. (Currently amended) The orthopaedic spatial fixation system of claim 13, wherein the second set of attachment structures is not spaced according to the diameter equation and chord length limitations.

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36. (Currently amended) An orthopaedic spatial fixation system, comprising a plurality of arcuate shaped fixation plates, wherein each plate comprises a plurality of attachment points, at least some of the attachment points being in sets of three attachment points, the three attachment points in a set being spaced substantially 120 degrees apart from each other along an arc of the fixation plate; wherein the plates are adapted to be connected to each other with a plurality of attachment structures such that at least one of the attachment structures connecting two of the plates is not substantially parallel to at least one other of the attachment structures connecting the same two plates, the number of attachment structures on

each plate being at least six and a multiple of 3 , whereby rotating a first one of the fixation plates substantially 120 degrees from a starting position in a plane substantially parallel to another one of the fixation plates causes the first fixation plate to present the same geometrical arrangement of attachment points to the attachment structures as the geometrical arrangement of attachment points presented to the attachment structures when the first fixation plate was in the starting position.

37. (Previously presented) The orthopaedic spatial fixation system of Claim 36, whereby rotating the first fixation plate substantially 60 degrees from the starting position in a plane substantially parallel to another one of the fixation plates presents the same geometrical arrangement of attachment points to the attachment structures as the geometrical arrangement of attachment points presented to the attachment structures when the first fixation plate was in the starting position.

38. (Previously presented) The orthopaedic spatial fixation system of Claim 36, wherein the number of attachment points is a multiple of six, providing 2x3 symmetry.

39. (Previously presented) The orthopaedic spatial fixation system of Claim 36, wherein at least one of the fixation plates is ring shaped.

40. (Previously presented) The orthopaedic spatial fixation system of Claim 36, wherein the plurality of attachment points are positioned such that in use, at least some of the attachment points on one of the plates move into alignment with at least some of the attachment points on another plate as adjustment is effected.

41. (Previously presented) The orthopaedic spatial fixation system of Claim 36, wherein the attachment points are positioned along an arc of α° of a circle defined by a diameter d,

and the chord length between adjacent attachment structures is substantially equal to l , and the defined relationship comprises

$$d \sim l \left(\sqrt{\frac{1}{\tan^2\left(\frac{\alpha}{2n}\right)} + 1} \right)$$

42. (Previously presented) The orthopaedic spatial fixation system of Claim 36, wherein the orthopaedic spatial fixation system is adapted to be positioned on a patient.

43. (Previously presented) The orthopaedic spatial fixation system of Claim 36, wherein the attachment structures comprise six adjustable struts, a first end of each of the struts connected to one of the attachment points on one of the fixation plates and a second end of each of the struts connected to one of the attachment points on another one of the fixation plates, wherein the attachment points connected to struts are each connected to two struts.

44. (Previously presented) The orthopaedic spatial fixation system of Claim 36, wherein the attachment structures comprise six adjustable struts, each strut connected at a first end to one of the attachment points of one of the fixation plates and each strut connected at a second end to one of the attachment points of another one of the fixation plates, wherein each attachment structure that is connected to a strut is only connected to one strut.

45. (Currently amended) An orthopaedic spatial fixation system, comprising a plurality of fixation plates wherein each plate comprises a plurality of attachment points, at least some of the attachment points being in sets of three attachment points, the three attachment points in a set being spaced substantially 120 degrees apart from each other along an arc of the fixation plate; wherein the plates are adapted to be connected to each other with a plurality of attachment structures such that at least one of the attachment structures connecting two of the plates is not substantially parallel to at least one other of the attachment structures connecting

the same two plates, the number of attachment structures on each plate being at least 6 and a multiple of 3, whereby rotating the first fixation plate substantially 120 degrees from a starting position in a plane substantially parallel to another one of the fixation plates presents the same geometrical arrangement of attachment points as the geometrical arrangement of attachment points presented to the attachment structures when the first fixation plate is in the starting position.

46. (Previously presented) The orthopaedic spatial fixation system of Claim 45, further comprising an accessory adapted to be attached to one or more of the fixation plates.

47. (Previously presented) The orthopaedic spatial fixation system of Claim 45, wherein the orthopaedic spatial fixation system is adapted to be positioned on a patient.

48. (Previously presented) The orthopaedic spatial fixation system of Claim 45, wherein the attachment structures comprise six struts, a first end of each of the struts connected to one of the attachment points on one of the fixation plates and a second end of each of the struts connected to one of the attachment points on another one of the fixation plates, wherein the attachment points connected to struts are each connected to two struts.